

Claims

What is claimed is:

1 *Sub A1* 1. A method for testing a parallel optical transceiver comprising
2 the steps of:

3 connecting in series each of a plurality of channels of said parallel
4 optical transceiver;

5 applying a predefined data pattern to a first channel of said series
6 connected plurality of channels;

7 detecting an output from a last channel of said series connected
8 plurality of channels; and

9 comparing said applied predefined data pattern with said output to
10 identify operation of said parallel optical transceiver.

1 2. A method for testing a parallel optical transceiver as recited in
2 wherein the step of connecting in series each of a plurality of
3 channels of said parallel optical transceiver includes the steps of respectively
4 electrically connecting a respective channel receiver to a corresponding
5 respective channel transmitter; and respectively optically connecting each
6 respective channel transmitter to a next respective channel receiver.

1 3. A method for testing a parallel optical transceiver as recited in
2 wherein the step of applying a predefined data pattern to a first
3 channel of said series connected plurality of channels includes the steps of
4 generating said predefined data pattern utilizing a serial data generator and
5 applying said predefined data pattern to a first channel receiver of said
6 series connected plurality of channels.

1 4. A method for testing a parallel optical transceiver as recited in
2 wherein the step of detecting an output from a last channel of said
3 series connected plurality of channels includes the steps of detecting an
4 output utilizing a serial data detector connected to a last channel transmitter
5 of said series connected plurality of channels.

1 5. A method for testing a parallel optical transceiver as recited in
2 claim 1 wherein the step of comparing said applied predefined data pattern
3 with said output to identify operation of said parallel optical transceiver
4 includes the steps of comparing said applied predefined data pattern with
5 said output and identifying a match to identify correct operation of said
6 parallel optical transceiver.

1 6. A method for testing a parallel optical transceiver as recited in
2 claim 1 wherein the step of comparing said applied predefined data pattern
3 with said output to identify operation of said parallel optical transceiver
4 includes the steps of comparing said applied predefined data pattern with
5 said output and identifying failed operation of said parallel optical transceiver
6 responsive to no match of said compared predefined data pattern with said
7 output.

1 7. A method for testing a parallel optical transceiver as recited in
2 claim 1 includes the steps of connecting a plurality of parallel optical
3 transceivers in series; wherein the step of connecting in series each of a
4 plurality of channels of said parallel optical transceiver is provided for each of
5 said series connected parallel optical transceivers; and wherein the step of
6 detecting an output from said last channel of said series connected plurality
7 of channels includes the step of detecting an output from said last channel of
8 said series connected plurality of channels from a last one of said series
9 connected parallel optical transceivers.

1 8. A method for testing a parallel optical transceiver as recited in
2 claim 7 wherein the step of applying a predefined data pattern to a first
3 channel of said series connected plurality of channels includes the steps of
4 generating said predefined data pattern utilizing a serial data generator and
5 applying said predefined data pattern to a first channel receiver of said
6 series connected plurality of channels of a first one of said series connected
7 parallel optical transceivers.

1 9. A method for testing a parallel optical transceiver as recited in
2 claim 8 wherein the step of comparing said applied predefined data pattern
3 with said output to identify operation of said parallel optical transceiver
4 includes the steps of comparing said applied predefined data pattern with
5 said output and identifying a match to identify correct operation of each said
6 series connected parallel optical transceivers.

1 10. A method for testing a parallel optical transceiver as recited in
2 claim 8 wherein the step of comparing said applied predefined data pattern
3 with said output to identify operation of said parallel optical transceiver
4 includes the steps of comparing said applied predefined data pattern with
5 said output and identifying failed operation of said series connected parallel
6 optical transceivers responsive to no match of said compared predefined
7 data pattern with said output.

1 11. Apparatus for testing a parallel optical transceiver comprising:
2 a plurality of connectors for connecting in series each of a plurality of
3 channels of said parallel optical transceiver;
4 a serial data generator for applying a predefined data pattern to a first
5 channel of said series connected plurality of channels;
6 a serial data detector for detecting an output from a last channel of
7 said series connected plurality of channels and for comparing said applied
8 predefined data pattern with said output to identify operation of said parallel
9 optical transceiver.

1 12. Apparatus for testing a parallel optical transceiver as recited in
2 claim 11 wherein said plurality of connectors for connecting in series each of
3 a plurality of channels of said parallel optical transceiver includes an optical
4 wrap plug.

1 13. Apparatus for testing a parallel optical transceiver as recited in
2 claim 12 wherein said optical wrap plug includes a plurality of optical
3 connectors for respectively optically connecting each respective channel
4 transmitter to a next respective channel receiver.

1 14. Apparatus for testing a parallel optical transceiver as recited in
2 claim 11 wherein said plurality of connectors for connecting in series each of
3 a plurality of channels of said parallel optical transceiver includes an
4 electrical wrap plug.

1 15. Apparatus for testing a parallel optical transceiver as recited in
2 claim 11 wherein said electrical wrap plug includes a plurality of electrical
3 connectors for respectively electrically connecting a respective channel
4 receiver to a corresponding respective channel transmitter.

1 16. Apparatus for testing a parallel optical transceiver as recited in
2 claim 11 wherein said serial data generator for applying said predefined data
3 pattern to said first channel of said series connected plurality of channels
4 includes an optical connection to said first channel of said series connected
5 plurality of channels.

1 17. Apparatus for testing a parallel optical transceiver as recited in
2 claim 11 wherein said serial data detector for detecting an output from a last
3 channel of said series connected plurality of channels and for comparing
4 said applied predefined data pattern with said output to identify operation of
5 said parallel optical transceiver includes an optical connection to said last
6 channel of said series connected plurality of channels.

1 18. A method for testing a plurality of parallel optical transceivers
2 comprising the steps of:
3 connecting in series each of a plurality of channels of each of said
4 parallel optical transceivers;
5 connecting in series each of said parallel optical transceivers;
6 applying a predefined data pattern to a first channel of a first one of
7 said series connected plurality of parallel optical transceivers;
8 detecting an output from a last channel of a last one of said series
9 connected plurality of parallel optical transceivers; and
10 comparing said applied predefined data pattern with said output to
11 identify operation of said plurality of parallel optical transceivers.

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